

# Assessing the Impact of Mobile Health Messages among Expectant Women and New Mothers—Case Study Aponjon

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## Abstract

### Background

The Mobile Alliance for Maternal Action (MAMA) Bangladesh initiative, under the brand name “Aponjon” service, provides weekly health information through mobile phones to expectant women and new mothers whose baby’s age is under one year, as well as to gatekeepers. Since 2011, the service has provided behavioral change messages to more than 400,000 women and their counterparts nationwide. The messages are expected to contribute toward reduced maternal and child mortality. The subscribers receive IVR (recorded voice message) or SMS (short text message) as per their preference.

### Design and Methodology

Aponjon conducted sample surveys for the first time to understand the impact of the study in 8 select locations of Bangladesh. About 160 new mothers, 167 expectant women and 88 gatekeepers were interviewed. Purposive and Snowball sampling were used. The respondents have been exposed to the service for at least 3 months.

### Results

The study shows that weekly messages can be effective as reminders for important actions and can bring about behavioral changes among women that are necessary for a healthy baby and mother. For example, the study found that 78.1% of the women could take better care of their babies and maintain hygiene, 57.5% of the women knew what to feed their babies, 44.3% of expectant women increased their daily uptake of food, and 49.7% of the women avoided heavy work during pregnancy. Utilization of maternal health services, e.g., antenatal checkup (53%), postnatal checkup (60%) and health facility-based delivery (62%) was higher than the national data in Aponjon subscribers.

Key words: mobile phone, expectant women, new mothers, gatekeepers, health-seeking behavior

## Introduction

MAMA is a global public-private initiative to deliver health education messages to pregnant women and new mothers using mobile phone technology. MAMA was launched in May 2011 by the U.S. Agency for International Development (USAID) and Johnson & Johnson, in collaboration with the United Nations Foundation, the mHealth Alliance and BabyCenter LLC. The initiative is being implemented in Bangladesh, India and South Africa. The goal of the initiative is to substantially contribute to a reduction in maternal and neonatal mortality by improving health-seeking and preventive behaviors of pregnant women, new mothers and their families—to ultimately contribute toward achieving Millennium Development Goals (MDGs) 4 and 5. In collaboration with a core group of partners, D.Net, a Bangladeshi social enterprise (nongovernmental organization), is responsible for implementing and coordinating the MAMA Bangladesh initiative.

### Aponjon, the Brand in Bangladesh

Under the brand name “Aponjon,” the MAMA Bangladesh initiative is poised to become the first financially sustainable health information service utilizing mobile phones to improve health outcomes at a national level by emphasizing innovative financing models. The Ministry of Health and Family Welfare (MoH&FW) and the Access to Information (A2I) program at the Prime Minister’s Office (PMO) are the official government partners of MAMA Bangladesh. The initiative is building upon the existing USAID and Government of Bangladesh’s (GoB’s) maternal, child health and family planning programs and is being implemented through the Maternal and Child Health Integrated Program (MCHIP).

Any expectant woman or new mother who has access to a cellphone can register to be part of the Aponjon service. The woman has to provide

her LMP (last menstruation period in case of pregnancy) or DOB (date of birth for her baby) to receive mobile-based messages twice per week. The women can either text this information to Aponjon short code “16227” or she can be registered through a community health worker who visits her every month. Along with the woman, her guardian (mostly husbands) can also register to the service as a secondary subscriber and can receive one message every week on the same or separate mobile phone. A woman and her guardian can in this way register to the service from pregnancy and can receive health-seeking information for the mother and newborn until the baby’s first birthday. A subscriber may receive either an IVR or SMS based on her usability. It was found that 90% of Aponjon users prefer IVRs. The content of the service has two versions: urban and rural, catered to the needs of the diversity of people.

The service has a pro-poor model. Under the current activities, around 1,200 active community health workers of the outreach partners collected socio-economic information from 3,60,213 expectant women, new mothers and their guardians. The service model has a pre-set logic that determines the poorest of the poor based on the collected data from subscribers. The community health workers are completely unaware of how this logic on the selection of pro-poor works and thus the process remains unbiased. Aponjon envisages providing the service free to 20% of the women. Currently, 9% of subscribers living below the poverty line are receiving the service free of charge. Other than the pro-poor model, there is a paid model that is applicable to the rest of the subscribers who are eligible; they are charged per message at 2.3 BDT (0.03 USD).

## Objectives of the Sample Survey

Aponjon service conducted the first annual sample survey between July–September 2013. The objectives of the survey were the following:

- Measure the impact of the messages on health-seeking behavior of expectant women and new mothers, e.g., antenatal checkup, postnatal checkup, etc.
- Measure the impact of the messages on household practices, e.g., colostrum feeding to newborns, delaying first bath, immunization of babies, etc.
- Measure satisfaction level of the subscribers.
- Prescribe any feedback of the subscribers to content, service design or service.

## Research Methodology

Interviews were conducted with 160 new mothers, 167 expectant women, 45 gatekeepers of new mothers and 43 gatekeepers of expectant women from 8 locations of Bangladesh. The study areas were selected based on geographic, cultural and socioeconomic diversity and remoteness. Interviewees were identified with the help of the community health workers who registered them and each interview was completed by a pair of data enumerators (one male and one female) in order to make women feel more comfortable during the interview. Data enumerators followed a list from Aponjon to identify subscribers from each area. The data from urban subscribers was minimal in this survey as the majority of subscribers are based in rural areas due to Aponjon’s customer acquisition policy.

Semi-structured questionnaires were used for this survey. Every questionnaire contained a portion called “special note,” which captured the insight of the data enumerators on the service or a particular client.

Collected data was cross checked with Aponjon’s central database that contains basic subscriber information. Only subscribers who had received Aponjon messages themselves or had access to messages through family member’s phones were interviewed and considered for impact analysis.

## Research Findings

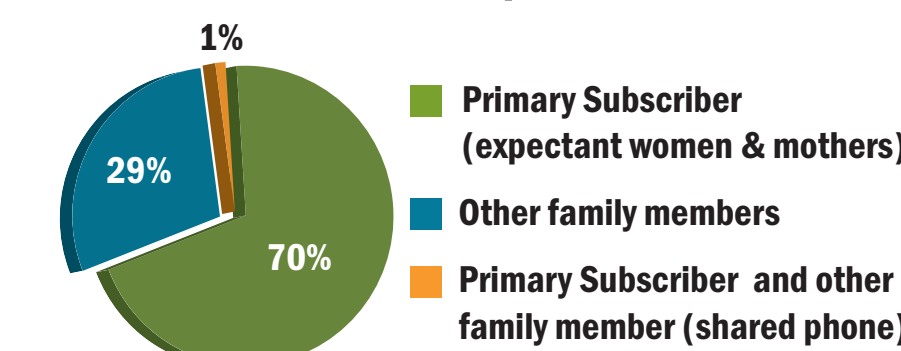
### Profile of Aponjon subscribers

Most (70%) of the primary subscribers (expectant women and new mothers) received messages themselves. The rest of the women either received the messages through someone else in the family (1%) or had the message transmitted to her from gatekeepers (29%) who received the messages.

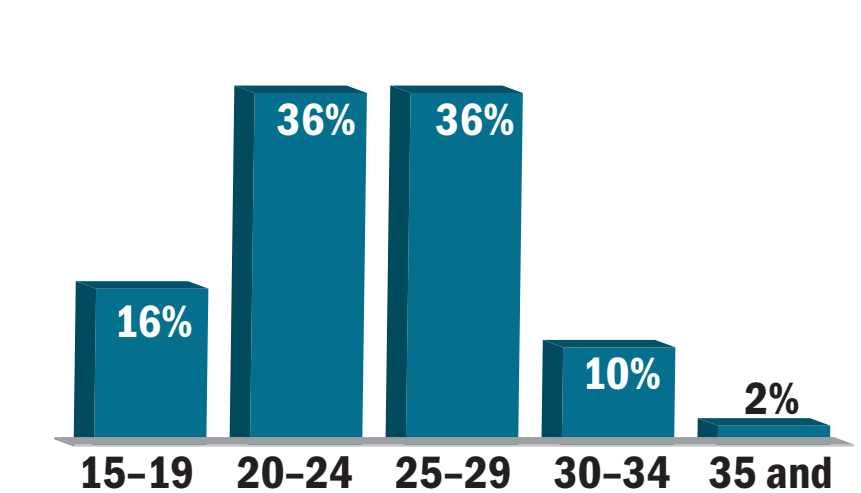
The survey included responses from teenage mothers (16%) who received Aponjon for their first born. New mothers mostly belonged to the age group of 20–29 years (72)%.

Women were mostly housewives. Families belonged to the lower wealth quintile (monthly income <125 USD). Aponjon served women who went to school as well as those who never attended school (7%). The preferred medium to receive the service was IVR.

Access to Aponjon messages in terms of who receives the phone



Age of new mothers



### Utilization of maternal health services

Utilization of health services was higher among women who received Aponjon messages than the national statistics given in 2011. Subscribers of Aponjon performed well in the World Health Organization’s recommended actions to be taken, e.g., at least 4 antenatal checkups (53%) during pregnancy, safe deliveries at health facilities (62%) and postnatal care (PNC) checkup after delivery (60%).

### Knowledge, attitude and behavioral change

After listening to Aponjon messages, 44.3% of expectant women increased their daily uptake of food, 49.7% of women avoided heavy work during pregnancy, 8.8% of women received help on household chores from family members who listened to the messages and 14.4% of women made delivery plans, etc.

Of those interviewed, 78.1% of new mothers and 64% of gatekeepers admitted they were able to take better care of their newborns at home because they received Aponjon messages. A total of 41.3% learned about hygiene, 57.5% of mothers learned about supplementary food and nutrition for babies older than 6 months, 13.1% learned how to take care of the newborn’s umbilical cord and 21% learned how to create a special bond between mother and child during the early stages of life.

## Conclusions

Mobile based health services can be useful if one has regular access to a phone. In Bangladesh, Aponjon changed the perception of using mobile phones. Expectant women and new mothers now know that other than receiving phone calls from loved ones, they can also receive calls from a known friend called “Aponjon,” which provides weekly messages for her and her newborn’s health. With gatekeepers also included in the service, women are receiving improved health care at home. Aponjon remains one of the main sources to remind families of good practices and decisions around health-seeking behaviors. Aponjon’s experience will be useful for other mHealth service implementers across the globe.

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